

PRINTER RUSH ●
(PTO ASSISTANCE)

Application : 10662565

Examiner : Vincent O. NGUYEN

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<input type="checkbox"/> IIFW	_____	<input type="checkbox"/> Fees
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[RUSH] MESSAGE: Pg. 1f of specification is missing two U.S. Application Numbers. PLEASE Supply. THANK You.

DS.

[XRUSH] RESPONSE: Corrected

Andrew Spence

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INITIALS: AS

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monitor the output current of the programmable controller for characteristics identifying an arc event.

In another embodiment of the present invention, shown in FIG. 7, the system can further include a damaged wire detector 70 electrically connected between the 5 programmable controller 10 and the loads 14. In this embodiment, the damaged wire detector is capable of monitoring the impedance conditions associated with the conductors connecting the programmable controller to the loads, as well as the loads. Typically, the conductors can be tested before applying power to the loads to thereby prevent malfunction in the system upon applying power to the loads. The damaged 10 wire detector can detect a damaged wire and locate the damage in any of a number of different manners, such as according to a time domain reflectometry technique.

For instance, when the arc fault detector identifies characteristics of an arc event, the damaged wire detector can be utilized to attempt to locate damage caused by such an arc event. In this regard, if an electric arc is detected when flash point 15 occurs and the electric arc grows, the electric arc itself may act as a resistor. In such instances, then, the location of the flash point can be detected by the damaged wire detector 70 as the point where a test pulse reflects off of the point due to the resistance caused by the electric arc. If the reflection does not indicate a "resistor growth," then, the alert of the arc fault detector 16 can be considered a nuisance trip and shutdown 20 can be prevented. For more information on such a damaged wire detector, as well as the system including both the arc fault detector 16 and the damaged wire detector, see

U.S. Patent Application No. _____, entitled: System, Damaged Wire Detector and Method for Remotely Detecting and Locating Arc Fault Events in A Power System, filed concurrently herewith, and U.S. Patent Application No.

25 _____, entitled: System, Supplemental Protection Module and Method for Remotely Detecting and Locating Faults in A Power System, filed concurrently herewith, the contents of both of which are hereby incorporated by reference in their entirety.

Many modifications and other embodiments of the invention will come to 30 mind to one skilled in the art to which this invention pertains having the benefit of the teachings presented in the foregoing descriptions and the associated drawings. Therefore, it is to be understood that the invention is not to be limited to the specific embodiments disclosed and that modifications and other embodiments are intended to be included within the scope of the appended claims. Although specific terms are